

*Superficial manubrial* : clavicular and anterior part of *pectoralis major*, sometimes separate from the remainder of the muscle.

*Deep manubrial* : occasionally present as the *pectoralis minimus* of Wenzel Gruber.

*Gladiolar* : posterior, non-reflected part of *pectoralis major*.

*Costal* : double (1) *pectoralis minor*, (2) deep reflected part of *pectoralis major*.

*Abdominal* : occasionally present as *pectoralis quartus*, or as some of the forms of *achselbogen*.

III. "Some Observations on the Amount of Light reflected and transmitted by certain kinds of Glass." By Sir JOHN CONROY, Bart., M.A., Bedford Lecturer of Balliol College and Millard Lecturer of Trinity College, Oxford. Communicated by A. G. VERNON HARCOURT, Esq., F.R.S. Received November 8, 1888.

(Abstract.)

The experiments were commenced in order to determine the amount of light lost by transmission through glass.

Plates of the same kind of glass, but of different thickness, were taken, and the amount of light they transmitted determined, and from these values the percentage amounts reflected and obstructed calculated.

The amount reflected from the first surface was also determined directly by measuring the relative intensities of the illumination produced by two argand flames, when the light from both fell directly on the photometric surfaces, and when the light from one fell directly whilst that from the other reached the photometer after reflection from the surface of the glass.

Experiments were also made to ascertain whether repolishing altered in any way the reflective power of the glass; and the polarising angles of the glass before and after repolishing were also determined.

*Conclusions.*

It seems probable that the amount of light reflected by freshly polished glass varies with the way in which it has been polished, and that, if a perfect surface could be obtained without altering the refractive index of the surface-layer, then the amount would be accurately given by Fresnel's formula, but that usually the amount differs from that given by the formula, being sometimes greater and sometimes less.

The formation of a film of lower refractive index on the glass would account for the defect in the reflected light; but to account for the excess, it seems necessary to assume that the polishing has increased the optical density of the surface-layer, and the changes produced in the amount of light transmitted and in the angle of polarisation support this view.

After being polished, the surface of flint glass seems to alter somewhat readily, the amount of the reflected light decreasing, and the amount of the transmitted increasing, whilst with crown glass the change, if any, proceeds very slowly.

There is no evidence to show to what particular cause these changes are due.

The values of the transmission coefficients for light of mean refrangibility for the two particular kinds of glass are given, and show that for 1 cm. the loss by obstruction amounts to 2·62 per cent. with the crown glass and 1·15 per cent. with the flint glass.

#### IV. "The Specific Resistance and other Properties of Sulphur."

By JAMES MONCKMAN, D.Sc. Communicated by Professor J. J. THOMSON, F.R.S. Received November 10, 1888.

[Publication deferred.]

*Presents, December 6, 1888.*

#### Transactions.

Freiburg-im-Breisgau:—Naturforschende Gesellschaft. Berichte. Bd. II. 8vo. *Freiburg* 1887. The Society.

Gloucester:—Cotteswold Naturalists' Field Club. Proceedings. 1887-1888. 8vo. *Gloucester*; The Origin of the Cotteswold Field Club. By W. C. Lucy. 8vo. *Gloucester* 1888. The Club.

Haarlem:—Musée Teyler. Archives. 8vo. *Harlem* 1888; Catalogue de la Bibliothèque. Livr. 7-8. 8vo. *Harlem* 1887-88. The Museum.

Halle:—Verein für Erdkunde. Mittheilungen. 1881. 8vo. *Halle*. 1881. The Verein.

Hamburg:—Naturhistorisches Museum. Bericht. 1887. 8vo. *Hamburg* 1888. The Museum.

Helsingfors:—Finska Vetenskaps-Societet. Acta. Tom. XV. 4to. *Helsingfors* 1888; Bidrag till Kändedom af Finlands Natur och Folk. Häftet 45-47. 8vo. *Helsingfors* 1887-88; Öfversigt. XXVIII-XXIX. 8vo. *Helsingfors* 1886-87; Dess